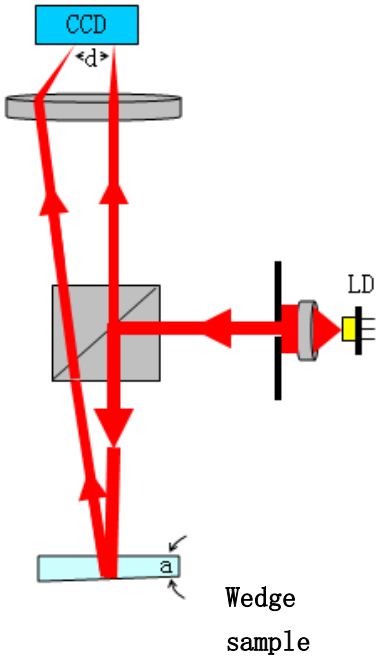
LAC (Laser Autocollimator) is a non-contact instrument for small angle measurement with monochromatic laser as light source. It uses the excellent orientation inherent in laser and the characteristics of small light spot to testing the straightness, flatness, angle precision, and parallelism, especially for small area products measurement.

The working principle is shown in the figure below, is to use a collimated laser beam irradiation of the target measured surface, after reflection imaging in high-precision CCD. The measuring software calculates the angle between the reflection angle and the reference plane and displays it directly. Different apertures can be selected to change the size of the detection spot to accommodate the detection of small area products (up to a minimum of 1mm) . For the multi-faces reflection, the software can measure the angle value of many imaging points on the screen, especially suitable for the precise positioning of many optical plane surfaces assembly and inspection.

Main Application:

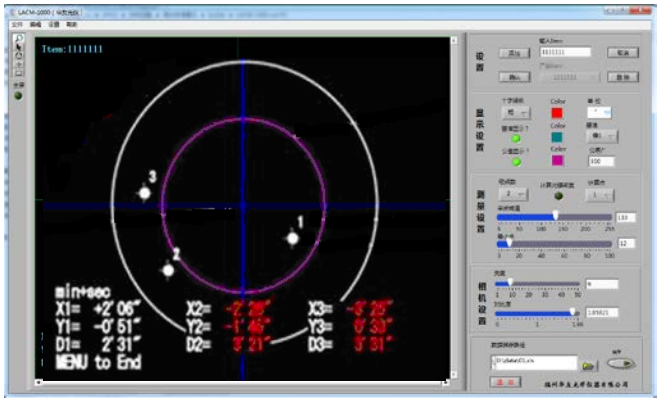
- Mechanical Straightness/Flatness measurement;
- Angle/Perpendicular/Parallelism Measurement;
- Windows assembly inspection:
  - Wafer packaging Positioning;
  - Lens shift/Titling monitor;
- Vibration or rotation stability monitoring
  - Voice Coil Motor inspection



Operations:

1. Optical Wedge Measurement:

LAC could be used for prism angle testing. Firstly, we need to make a tooling according to the prism angle that you intend to testing, and install the LAC or Prism on the tooling to make the LAC input vertically prism surface. Using a known angle prism master to calibrate the software, and then you can load the prism and directly read the angle data. To improve the repeatability, Vacuum sucker on the loading surface is recommended especially for the prism with small aperture.



2. Multi-surfaces parallelism measurement:

If the surfaces are not parallel in windows assembly, each surfaces would make different reflection and multi images would show on the software screen, we can read the deviation for specify image, or adjust the windows to merge all reflection images together, which means all the window surfaces in good parallelism.

Main Specifications:				Main Parts:
P/N	LAC-1000	LAC-500	LAC-500-W	● Laser Auto-collimator ● XY adjustor ● Mechanical base and Post ● LD Driver ● Software ● Tablet PC
Field of View	±1° (XY) ±1.3° (Diagonal)	±1° (XY) ±1.5° (Diagonal)	±1.9° (X) ±1.5° (Y) ±2° (Diagonal)	
Accuracy	≤5"	≤20"	≤30"	
Size (mm)	80x62x167	52x43x120	80x62x127	
Resolution	1"			
Input Aperture stop	Φ1, 2, 3, 4, 6mm			
Laser Wavelength	Green 520nm(或 red Laser)			
Working Distance	0~100mm			

Tel: +86 591-83841181